

REMARKS/ARGUMENTS

STATUS OF CLAIMS

Claims 1-10 are now pending in this application.

REJECTION OF CLAIMS UNDER 35 U.S.C. § 103

I. Claims 1 and 3-10 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Justel et al. (USPN 6,084,250) in view of Doxsee et al. (US 2004/0159846), and further in view of Atagi (US 2002/0070682).

The rejections are respectfully traversed.

The Examiner maintains that Justel et al. and Doxsee et al. disclose all the features of independent claim 1, except a solid material illuminant having an absorbent for the blue-violet light containing Sm of 0.01 to 10 mol%. The Examiner contends that Atagi teaches the material containing of 0.01 to 10 mol% of Sm, referring to paragraphs [0045], [0121] and [0015]. The Examiner also notes that Atagi reveals 0.1-10% by wgt of Sm, which is believed to satisfy the claim absent a showing to the contrary.

However, Atagi teaches that examples of emissive elements are oxides of elements in the lanthanoide series, which includes Sm, and the optimum range for oxides of elements in the lanthanoide series, is 0.01 to 10 wt % (see paragraphs [0042], [0045] and [0121] which specifically refer to “oxides” of elements in the lanthanoide series). There is no disclosure or suggestion in Atagi of a solid material illuminant containing **Sm** (not an oxide of Sm) of 0.01 to 10 mol%.

Applicants consider that the concentration range of the Sm oxides in Atagi (U52002/0080682A1) is not directly connected to the functional effect of the invention of the present application.

Japanese Patent Application No. **2000-206487**, that is the basic application of Atagi (U52002/0080682A1 - see Foreign Application Priority Data), teaches that a fluorescent material excited by mercury of 254 nm provides light emission including ultraviolet light UV2 of a longer wavelength, and the fluorescent material providing visible light is excited by this ultraviolet light UV2 such that the luminous flux of the entire HID lamp is increased. Atagi is silent about the HID lamp including Sm. Only TIO is taught in the examples of Atagi.

It is to be noted, however, that Japanese Patent Laying Open No. 2002-83569 of the same inventor (copy enclosed with a machine translation to English which notes Japanese Priority number **2000206487**) teaches that ultraviolet light UV2 similar to that set forth above is presented by the glass material including 0.01 to 10 wt% oxide of a specific element. It is taught that Sm may be used for the specific element. In view of the function of Sm in Japanese Patent Laying Open No. 2002-83569, it is considered that the function of “absorbing light emission of mercury of 254 nm, presenting light emission including near ultraviolet light of a longer wavelength” is exhibited.

In the invention of the present application, the excitation spectrum of Sm is shown in Fig. 2 of the present application. Sm does **NOT** have an absorption band in the vicinity of 254 nm. Ultraviolet light is not presented from the light emission spectrum of Fig. 2, and red light is presented in the vicinity of 600 nm. The light emission excited by this red light does **NOT** belong to the visible radiation, and will correspond to infrared light.

Thus, it is considered that the concentration range of the Sm oxide in Atagi is not directly connected to the functional effect of the invention of the present application. Therefore, it is not appropriate to apply the disclosed concentration range of 0.01 to 10 wt% of Japanese Patent Laying Open No. 2002-83569 to efficiently emit ultraviolet light UV2 excited by 254 nm to the present application, and a person of ordinary skill in the art would not arrive at the present invention by a combination of Justel et al., Doxsee et al. and Atagi.

In view of the above, independent claim 1 and claims 3-10 are patentable over Justel et al., Doxsee et al. and Atagi.

II. Claim 2 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Justel et al. in view of Doxsee et al. and Atagi, as applied to claim 1, and further in view of Maede et al. (JP Application 2003-110150).

Claim 2 depends directly from independent claim 1 and Maede et al. does not remedy the above-noted deficiency of Justel et al. and Doxsee et al. with respect to amended independent claim 1. Therefore, claim 2 is patentable over Justel, Doxsee et al., Atagi and Maede et al.

III. In view of the above, the allowance of claims 1-10 is respectfully solicited.

CONCLUSION

In view of the above, applicant(s) believes the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Edward J. Wise (Reg. No. 34,523) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

Dated: February 17, 2009

Respectfully submitted,

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